

Description and karyotype of *Schizonobia oudemansi* n. sp. from The Netherlands (Acari: Tetranychidae)

by

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ABSTRACT. — *Schizonobia oudemansi* n. sp. recently collected on *Helianthemum nummularium* (Cistaceae) at Wageningen is described and drawings are given. A key for the four known species of *Schizonobia* is provided. The chromosome number of *S. oudemansi* n. sp. is $2n = 8$.

INTRODUCTION

The genus *Schizonobia* Womersley belongs to the subfamily Bryobiinae Berlese and the tribe Petrobiini Reck; it is distinctive in having 13 pairs of dorsal body setae set on tubercles.

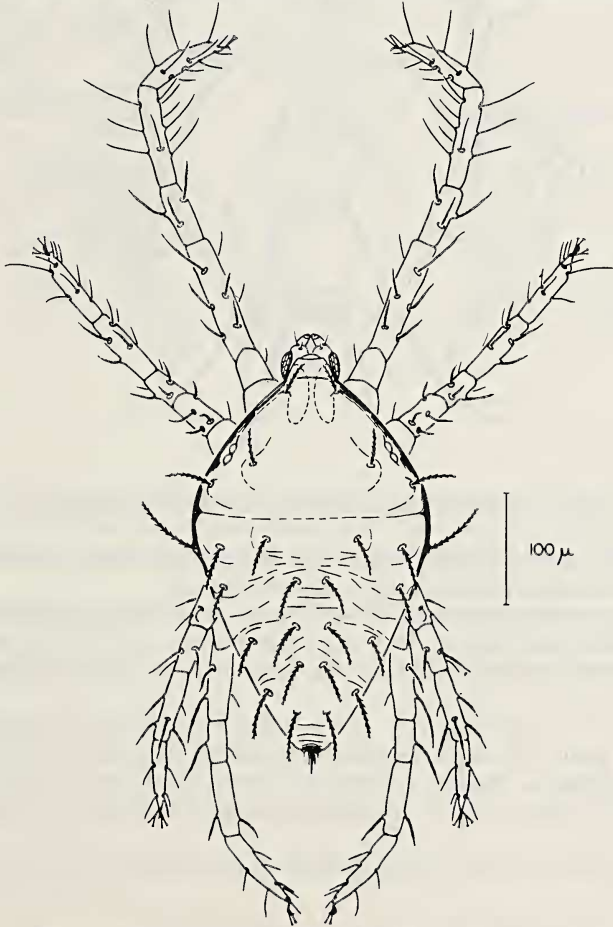


Fig. 1. *Schizonobia oudemansi* n. sp. Dorsal aspect of male.

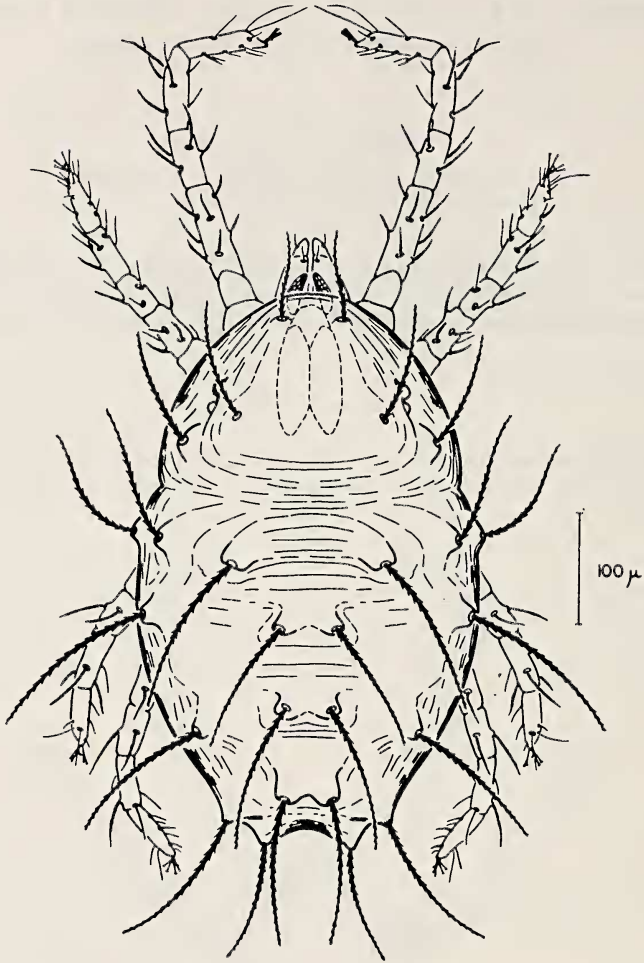


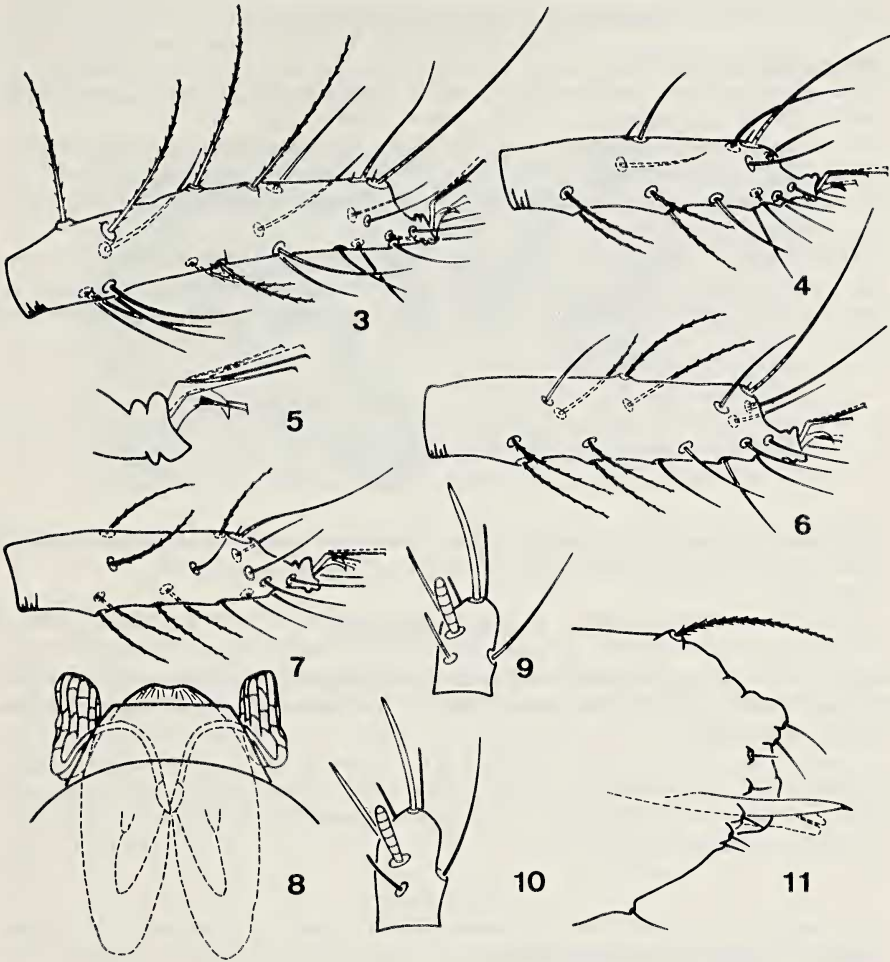
Fig. 2. *Schizonobia oudemansi* n. sp. Dorsal aspect of female.

The true claws are pad-like and the empodium is uncinat with a single pair of tenent hairs. The peritreme ends distally in anastomosing and protruding sacs.

Thus far three species were described in the genus: *Schizonobia sycophanta* Womersley, 1940, *S. hirsutellum* Athias-Henriot, 1961, and *S. bundi* Gutierrez, 1972. This number has now risen to four with the description of *Schizonobia oudemansi* n. sp. from Wageningen, the Netherlands.

The discovery of *S. oudemansi* n. sp. in the Netherlands confirms the hypothesis that all members of the genus *Schizonobia* originate from Europe and North Africa. We previously stated that *S. sycophanta*, although described from Tasmania, probably originated from Europe (Gutierrez & Bolland, 1973). *S. hirsutellum* was collected in Algeria, *S. bundi* in the south of France.

The species of *Schizonobia* may be differentiated by the chaetotaxy of the coxae I of females and males.



Figs 3-11. *Schizonobia oudemansi* n. sp. 3, tarsus I of male; 4, tarsus II of male; 5, empodium I of female; 6, tarsus I of female; 7, tarsus II of female; 8, peritremes of female; 9, terminal palpal segment of male; 10, terminal palpal segment of female; 11, aedeagus.

Table 1. Genus *Schizonobia*, chaetotaxy of the coxae I of males and females.

Species	Number of setae on coxa I	
	Females	Males
<i>S. oudemansi</i> n. sp.	2	2
<i>S. sycophanta</i>	3	5
<i>S. hirsutellum</i>	5	(male unknown)
<i>S. bundi</i>	10	13

Description of *Schizonobia oudemansi* n. sp.

Female (figs 2, 5, 6, 7, 8, 10)

Dimensions: Holotype: length of body including gnathosoma (L) = 485 μ , greatest width of body (1) = 305 μ ; paratypes L = 465 – 505 μ and 1 = 285 – 325 μ .

The dorsal integument bears smooth transverse striae. The 13 pairs of dorsal body setae are relatively long, serrate and tapering. The length of the 3 propodosomals varies from 80 to 100 μ and the 10 opisthosomals vary from 110 to 150 μ . The peritreme ends distally in an enlarged anastomosing complex.

The empodium of all legs is composed of a strong claw bearing one pair of short tenent hairs. Chaetotaxy of palpal tarsus: 3 long eupathidia, 1 fusiform and well developed solenidion, 3 ordinary setae. Chaetotaxy of legs I to IV in the order coxa, trochanter, femur, genu, tibia and tarsus:

I: 2 – 1 – 10 – 5 – 14 – 21
 II: 3 – 1 – 6 – 5 – 9 – 18
 III: 1 – 1 – 5 – 3 – 6 – 12
 IV: 1 – 1 – 5 – 3 – 6 – 12

The 2 duplex setae of tarsus I and the duplex of tarsus II consist of one long distal solenidion and one very short proximal ordinary seta.

Male (figs 1, 3, 4, 9, 11)

Dimensions paratype: length of body including gnathosoma is 355 μ ; greatest width of body is 205 μ . The dorsal body setae are shorter than in the females, with a length varying from 35 to 60 μ . The aedeagus is composed of a shaft narrowing to form a stylet with a slender tip pointing downwards. Chaetotaxy of legs I to IV, in the order coxa, trochanter, femur, genu, tibia and tarsus:

I: 2 – 1 – 11 – 5 – 19 – 27
 II: 3 – 1 – 6 – 5 – 9 – 19
 III: 1 – 1 – 5 – 4 – 8 – 14
 IV: 1 – 1 – 5 – 4 – 6 – 12

The number of setae on the femora, genua, tibiae and tarsi, in female and male, is lower than in the 3 other species of *Schizonobia*.

Material

Holotype female, 1 paratype male and 8 paratype females. All specimens examined were collected at Wageningen, 1.VI.1982, on *Helianthemum nummularium* (Mill.) (Cistaceae), which was introduced from Western Germany, near Bad-Neuenahr, Ahrtal. The holotype female and the paratype male are deposited in the Institute of Taxonomic Zoology (Zoologisch Museum), Amsterdam. One paratype female is deposited in the Museum National d'Histoire Naturelle, Paris. Other paratypes are deposited in the Centre ORSTOM, Montpellier.

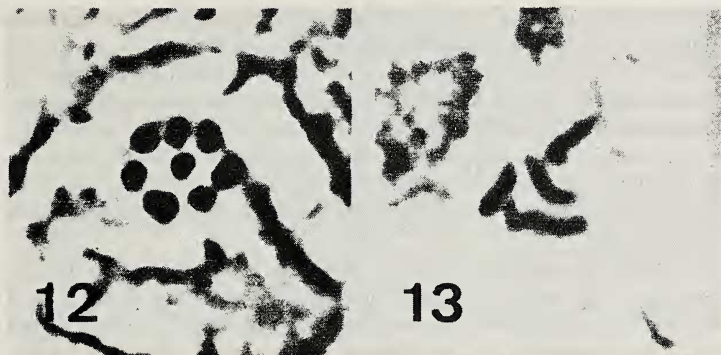
Field identification

The body of the female is brownish-red, the legs are lighter in colour. The body of the male is dark red. The species lives on the upperside of leaves and twigs; no silk is produced.

The species overwinters at the egg stage. There is a difference between the winter and the summer egg. The winter egg is coated with a whitish waxy material, giving the egg a cylinder-shaped appearance. Winter-eggs are always found in clusters around the stalks of the plant.

The summer egg has a reddish colour, and is surrounded by a very thin transparent layer. The summer eggs are also found on the stalk, single or in clusters.

S. oudemansi is dedicated to Anthonie Cornelis Oudemans (1858-1943), who was the first specialist in acarology in the Netherlands.



Figs 12-13. *Schizonobia oudemansi* n. sp. Photomicrographs of mitotic stages in diploid and haploid egg squashes; 12, $2n = 8$ (2200 \times); 13, $n = 4$ (2200 \times).

Chromosome number

Using the aceto-orcein staining method, squash preparations were made of embryonic tissues taken from eggs by the technique outlined by Helle, Bolland & Heitmans (1980). Two types of eggs were found, diploid with 8 chromosomes (in 31 eggs) and haploid with 4 chromosomes (in 4 eggs) (photomicrographs: figs 12 and 13). The numbers $2n = 8$ and $n = 4$ are the same as observed in another bisexual species of this genus, namely *S. sycophanta* (Gutierrez & Bolland, 1973). In the Bryobiinae, the chromosome numbers vary from $n = 2$ to $n = 5$ and it appears that the modal number is $n = 4$ (67% of the species studied) (Helle, Bolland & Heitmans, 1981).

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